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ABSTRACT

In this paper, educators in a suburban middle school promote the positive educational outcomes from an alternating-day block schedule at their middle school. Comparisons are cited in student achievement and school climate indicators between the block schedule and the eight-period day with shorter classes. The paper cites several advantages of the block schedule and presents data suggesting that this type of scheduling system promotes academic achievement, increases creative approaches to instruction, and improves school climate. (Author/EV)

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Abstract

Middle-level schools have undergone significant changes in recent years in response to calls for improved programming at that level. Educators have used a number of different strategies, many of them marked by the use of time in creative ways. In this article educators in a suburban middle school promote the positive educational outcomes derived from an alternating-day block schedule for a middle school. Comparisons are cited in student achievement and school climate indicators between the block schedule and the eight-period day with shorter classes. The authors cite several advantages for the block schedule, and present data to suggest that this type of scheduling system promotes academic achievement, increases creative approaches to instruction and improves school climate.

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Finding the perfect instructional program, with a perfect schedule to match, is like the search for the Holy Grail by secondary school educators. The increasing complexities of school programming, often fueled by societal needs and legislative initiatives, have placed increasing demands on teachers and have resulted in even greater challenges for educational leaders who wish to break free from the straightjacket of traditional time structures. The unique needs of middle level programming led educators at South view Middle School in Edina, Minnesota to implement a block schedule to meet the needs of students.

Block Scheduling has become increasingly common at the secondary school level as a means of addressing multiple issues including allowing opportunities for more electives and changing the instructional design of lessons to promote student learning in different modalities. Block scheduling at the high school level has been well documented. Less well publicized have been efforts at the middle level to use blocks of time to improve teaching and learning.

The implementation of block scheduling in a suburban middle school, and an analysis of its perceived effectiveness as a catalyst for change, is the subject of this study. The background of the district will be discussed, as well as the driving forces leading to change. The positive results produced by the implementation of block scheduling at the middle school level have been considerable, yet limitations and unanswered questions remain for future study.

A Tradition of Excellence

Edina, Minnesota is a first-ring suburb of Minneapolis, Minnesota, with a school population of approximately 7,500. Two middle schools serve this district, with South View Middle School having 900 students, Grades 6-9, during the 2000-01 school year. Students come mostly from upper middle-class families, with the school having only 2% of families meeting federal guidelines for free and reduced lunch. The main driving force in the district at the secondary level is academic achievement leading to entrance into college, with 94% of Edina High School graduates entering college, and 65% of those students receiving a bachelors degree within five years of graduation. Students in the district's two middle schools have consistently scored at or near the top of graduation standards tests at the eighth-grade level since this testing began in Minnesota during the 1996-97 school year.

This tradition of academic excellence, dating back to the school district's inception in the 1950's, was both an asset and a liability in moving to a block schedule at the middle level. Having students with a solid infrastructure of parental and community support reduced the risks involved with changing the instructional delivery system. The proven success of the previous system, however, served as a restraining force. The driving forces, however, were strong enough to move the middle schools forward, and to produce the opportunity for using instructional time in a creative way.

Driving Forces -- Why Change?

The success of the district in educating students capable of entering and completing college went unquestioned from the 1950's until the mid 1990's. Likewise the curriculum model and schedule in the mid '90's looked remarkably similar to that found in the course catalogues of the South View Middle school when it opened in 1954! Six classes a day, five days a week, every day the same schedule. It became increasingly clear to parents and teachers in our community, however, that our society and our middle level learners had changed and we needed to expand opportunities for students.

During the 1995-96 school year a site-based planning group was formed to design a new instructional model. The consensus was to adopt an eight period day to replace the six period day in order to allow additional curriculum to be added to the instructional program. The site-based planning team's recommendation was approved by the board of education, and the eight period day began with an auspicious start in the fall of 1996. The students' days were filled with the traditional requirements of academic core classes, and with many new exploratory classes. Students were required to fill their schedule, meaning 8 different classes and teachers each day in a 42-minute period time structure.

Too Much of a Good Thing!

Teachers, administrators and parents were pleased with the new curricular offerings. The technology education program was totally revamped, replacing the "birdhouse shop" with fully computerized labs. World language offerings (French, Latin, German and Spanish) became available for all students beginning in the sixth-grade. A full-year science requirement at each grade level was instituted, and an array of electives became available for students. We learned quickly, however, that the fast pace we created was not appropriate developmentally for middle school students.

Assessment of the new eight period day took place throughout the 1995-96 school year through extensive use of surveys and on-site conversations with teachers, parents and students. A consensus developed around several themes related to the new schedule:

- Increased expectations for homework. The addition of new courses, many of them academic courses producing homework, increased the expectation for daily work outside of class.
- Student (and parent) stress caused by increasing expectations
- Lack of continuity and meaning and focus in the student's day, and
- Lack of time for students and teachers to form meaningful relationships outside of the framework of the academic content.

One parent summed up the feelings of many others, "My child has increased homework, little time for family or friends, high stress levels and dreads coming to school." A student concurred, saying, "There is so much crammed into each day, there is no time to make learning fun." Teachers also identified stress points in the school day, noting "there is little time to go into depth with any topic in a 42 minute period." Indeed, the short time period led to an instructional setting in which serious inquiry and in-depth analysis were absent and teachers found comfort in a continuance of a lecture mode of instruction.

Looking for Answers

During the stressful 1995-96 school year we continued evaluating the system through the formation of a scheduling committee. Some staff and parents longed for the " good old days" when the schedule and expectations were simpler. We also came to realize, however, that the added options we gave to students could not be abandoned, as they became popular with students. The staff decided to look at block scheduling as a way of keeping the curricular offerings in a less stressful package for students and staff.

A small but influential group of teachers at the seventh-grade level led the effort to change the schedule. A series of staff development activities took place, including studying literature, viewing video presentations, and holding discussion groups. Staff wanted to visit other middle schools in the area who were using a double block system, but there were none. We realized we were in the unusual position of blazing a new trail, not only for our district, but also in our state and region.

The Right Kind of "Block"

Administrators gave the seventh-grade staff the go ahead to pilot a block schedule for the 1997-98 school year. The question of "what kind of block" surfaced, with discussion of whether or not the block should be "flexible." Our building had previous experience with flexible blocks, and we were aware of the literature promoting flexible blocks of instruction within a team structure. Our experience paralleled that of many other schools in that the flexible block was indeed flexible, yet was used infrequently by teachers. Our decision was to create an *inflexible* block of time, fixed at 89 minutes, with the hope that it would actually change instructional practices used by teachers.

Discussions also occurred about the format of classes within the block, and a decision was made to use an alternating day format for classes. Teachers wanted to have the opportunity to work with students over the course of an entire year. The fast changes, physically and mentally, of middle-school age students led staff to prefer this model over the 4 X 4 semester block schedule used by many high schools. Attempts to promote a mixture of time schedules (block on certain days and single periods on others, etc.) were also abandoned. By the start of the 1997-98 school year seventh-grade teachers were ready to start the double block system, armed with high hopes and with new skills in lesson design techniques.

Commitment to Teaming

The commitment to an extended block of time was matched by a district commitment to provide the staffing allocations necessary to implement teaming at all grade levels. This resulted in teachers teaching three blocks of students each day, with an 89-minute period of "block time." This time allowed the opportunity for team planning (we required daily meetings) and individual preparation time. Core teachers (math, science, language arts and social studies) had common planning time in this configuration. As the years have progressed we have become less prescriptive administratively about "required" team meetings on a daily basis. Now some teams meet for the entire 89-minute block on an every other day basis, with preparation on alternating days. Guidance counselors, special education teachers and other specialists use these team meetings to discuss their issues, and to become informed about potential student concerns.

Pace Slows Down, Satisfaction Goes Up

The pilot program at grade seven proved successful, with broad measures of satisfaction improving significantly for staff, students and parents. Baseline information was collected during the 1996-97 school year for both academic achievement and school climate measures. During that hectic first year of the eight period day, students were given a questionnaire, and 38% of them responded "Agree" to the statement "I am satisfied with the eight-period day at South View." One year later 66% of the new group of seventh-graders who were experiencing the alternating day block schedule responded "agree" to the statement, "I am satisfied with the blocking of classes in my schedule." Likewise, the stress level of seventh-graders decreased from 68% in 1995-96 to 35% in 1997-98 for students responding "agree" to the statement "I feel stressed at school this year."

Likewise, measures of staff satisfaction rose with the implementation of the block schedule. In 1995-95, 38% of the seventh-grade teachers agreed with the statement, "I am satisfied with the eight-period day." One year later 78% of the teachers agreed with the statement, "I am satisfied with the block scheduling at South View in the seventh-grade."

School-Wide Adoption

It did not take long for the positive information about the block schedule to spread to teachers at other grade levels. During the 1998-99 school year the eighth and ninth grades also followed suit, using a double block schedule for all core classes (math, science, social studies, and language arts). Single periods for electives continued that year, but in the 1999-2000 school years all classes were converted to an every-other-day, double-block schedule. Similar positive results have occurred, as they did with the seventh-grade pilot group. Academic achievement of students has remained stable, with no significant differences noted between scores from South View Middle School students before and after implementation of the block schedule. Additionally no significant differences have been noted between students in this middle school and the school district's other middle school that remained on largely single period instruction in its schedule.

Instructional Practices Begin to Change

The focus of this particular study and presentation focuses on the specific effects on instructional practices noted in the areas of mathematics, language arts and special education. We have noted similar results, however, from our colleagues in other curricular areas. The first reaction that many teachers had was the uneasy feeling surrounding the concept of "One teacher, 30 kids, 90 minutes!" Would the students fall asleep on me? Would they get so antsy they would be off task half the time? And would I, as the teacher, be as angry and frustrated as the students were? Teachers soon found out just the opposite. A properly crafted lesson kept students on task and alert. Not only that, the students began to learn in a different way, with a deeper understanding of the content.

Many teachers making the transition to the longer block of time found a three-part lesson plan to be effective. The opening 20-40 minutes consisted of direct instruction or "explanation". Those teachers familiar with the Hunter Model of lesson design used this time to complete the anticipatory set, statement of objective, provide input and model.

At the end of this part of the lesson the teacher made a transition to the second phase, "application," consisting of hands-on activities. The training of staff in cooperative learning techniques helped greatly here, as most teachers found it essential to have students interacting with each other during this phase of the block lesson. Additionally, almost all teachers found this to be an ideal block of time to do simulation activities, role playing, or others ways to actually experience the content of the lesson. Finally, the "synthesis" phase of the lesson occurred, with students and teachers reconvening and discussing the learning that had taken place in the lesson. Administrators and instructional supervisors note a significant increase in teachers' ability to have students achieve "closure" in a block lesson, something that rarely occurred in the 42-minute period of time.

Teachers in all disciplines needed to make some lesson and curriculum design changes to make the block of time effective. In language arts, for example, teachers discovered that the block was an ideal way to blend two types of content in order to add variety and meaning for students. Rather than teach a short story unit and a narrative writing unit separately, for example, the teacher blended those units together in order to have students learn specific writing techniques from the works they were reading. Likewise math teachers found that blending concepts works well in a single lesson, even if one of those occurs in Chapter 3 and the other in Chapter 11 of the text!

Special Education Adapts to the Block

Special education teachers faced similar questions in working with students with special needs. How will students with attention deficits make it through 90 minutes? How will this work if students see their special education teacher only every other day instead of daily? Will our current "pull out" model continue to be our method of service delivery to students? The answer to the final questions came first with a resounding "No!" The block seemed to be an ideal concept to pair with more of an inclusion approach to service delivery for students. The block facilitated this movement, and has proved to be a good concept for special educators to go into classrooms and be of service directly to the classroom teacher and to all of the students, while targeting attention to the students on the special educator's caseload.

Some pull out sessions remain, however, and even those have become more productive with a revised plan. The 90-minute block allows sufficient time for a variety of instructional approaches, including assistance with work from the student's classes as well as specific skill-building lessons in topics such as sentence writing, paragraph writing and study skills. Often the pull-out and the integration model are used within the same block of time, as a student can participate in the first part of the lesson taught by the classroom teacher, and then work with his or her special education teacher in a pull out setting to practice the skills that were taught by the teacher.

The block also allows sufficient time for the student and teacher to work collaboratively, even on the construction of the Individual Educational Plan. Special educators also use the block to team with other specialists, such as speech pathologists, psychologists and social workers.

Authentic Learning Experiences

Teachers in both academic core disciplines and lab-oriented classes found the longer block of time a positive feature in promoting learning experiences for students. A

teacher described how the longer block of time helps students experience all facets of a learning experience. "In the ninety minutes you can have students do more of the setup, take down and clean up of lab activities. In a short period, I have to do the gathering/measuring of materials ahead of time, to save time, and then am often left with a mess at the end as the students head out the door when the bell rings. This denies the student of experiencing how the activity is actually set up and evaluated." This is especially true for Family and Consumer Science teachers who have indicated the value of an extended period of time in order for students see the full cycle of preparing, cooking, and presenting for consumption, the food that students prepare. In a shorter period of time, corners often have to be cut, denying students the experience and the obligation of doing advance preparation and clean up. The extended block of time allows for cooking time, and often allows students to eat what they prepared, a significant advantage for them!

Physical Education classes have also been transformed by the extended block of time. In the longer periods, physical education teachers have incorporated physical fitness activities into all lessons, regardless of the specific unit being taught. There now is time to have students devote 10-15 minutes daily to exercises that are designed to develop physical fitness and cardiovascular strength. Sometimes the block is too long for a single activity (dance, for example) but in other cases the block is perfect for activities, especially outdoor activities. Students now use the running track more, and for other activities such as tennis, there is time for instruction and drills, as well as playing games in the same lesson, something that has not been possible in a shorter period.

Instruction has become more integrated, not just drills one day, followed by students playing games the next day. In swimming students have time for drills, as well as for recreational swimming within the same period, and have time enough to get ready and change clothes after class. Physical education students are now using the computer as an instructional tool, designing fitness profiles and doing research followed by physical activity, thus making instruction more meaningful for students.

Time for Listening and Reflecting

The extended class period has helped change the role of the teacher from a disseminator of information to that of a facilitator. A foreign language teacher indicated that classes are more relaxed, and that, "I feel I can take an interruption, and listen to a student's question, and interact with them, without feeling I am taking away from precious time." An instructional specialist, who works with a number of teachers at South View in observing their work and giving them feedback, indicated that she is observing more "facilitation" skills by teachers and less teacher-directed instruction. This change comes with more use of projects, activities, cooperative groups, and other methods to change the type of instruction in the longer period. Administrators report seeing a significantly greater number of teachers using "closure" activities at the end of the lesson. Teachers have time to bring students together and to have them reflect on the learning of the day, a feature that is often left out of lessons that are compressed into a shorter period of time.

Time for Technology

Our school district recently made a significant commitment to computer hardware allowing most teachers to have a min-lab of up to six computers in their classroom. In the 42-minute class period, however, the equipment was often underutilized. Teachers

reported that it was nearly impossible to construct a lesson which incorporated computer skills within this time period.

The advent of the 90-minute block, however, produced a noticeable increase in the use of technology by teachers as an instructional strategy. A foreign language teacher commented on the use of technology, indicating that, "even with only one computer in the classroom, I am able to route students through a book-marked website during a 90 minute block, while I continue instruction with the remainder of the class." A language arts teacher also mentioned the ability to create "stations" within the classroom and have students move through instruction more easily in an extended period of time.

A social studies teacher indicated that there is more "quality time" in the media center and the computer lab. In the extended block of time instruction can begin in the classroom by giving students background information and specific instructions. Then students go to the lab and in some cases return to the classroom for closure activities. In some cases the block has taken some pressure off of the computer lab, by allowing time for station work in the classroom even with one computer. The block of time also allows teams to allocate computer lab time within their team, with more than one teacher being able to use the lab within a block of time.

Retention of Learning

During the initial stages of implementation of the block schedule, teachers wondered how well students would retain information in the every-other-day format of instruction. Teachers noted that some students were having difficulty keeping up with their homework, and seemed not to have remembered important information from the previous lesson. Through this feedback from teachers we have become more aware of the importance of good organizational and study skills by students. Just because your homework was assigned today, but won't be due for two days doesn't mean you shouldn't do some work on that subject tonight! Increased communication with parents has also helped, such as on-line posting of assignments and projects by many teachers using the block schedule.

The concept of "retention of information" has also sparked discussions among staff about the skills we hope middle school students are acquiring. The previous model of teaching, namely the teacher providing information and students remembering it for the quiz or test, is gradually being replaced. The block schedule is moving us toward learning that is authentic and skill-based and thus less subject to measurement by the remembering of facts. Although much study needs to occur among our staff about the learning of our students, it appears that the block has not inhibited the ability of students to perform well on standardized tests. Additionally, it has sparked an interest in staff to use learning experiences that fit well with middle level philosophy.

Covering Content

Will we finish the textbook? Can I cover what I did before in the shorter class periods? Will the block schedule prevent our students from covering content that is necessary to function well at the high school level? These questions faced many staff as we made the transition to the block. One teacher, after a year's experience in the block, put it simply, "yes, we came a little short of covering the units we did last year, but what we did cover was done so much better, and students will remember it longer." Other teachers, namely in mathematics, felt compelled to cover a similar amount of

curriculum, knowing that the curriculum is sequential. They have made adaptations to combine units of instruction and have indeed kept pace during the four years so far of block instruction.

Next Steps

Many questions remain for the future regarding block scheduling. Significant discussions have taken place around the topic of "what is really worth teaching", and this will lead to important decisions about curriculum. We discovered that in some cases our curriculum was a "mile wide and an inch deep!" In those cases we have made decisions to teach fewer concepts, but to teach them well, with an array of experiential methods that the block allows.

Staff development continues to be a priority, especially in times of high staff turnover. New teachers must be given the time and the training to make the necessary changes in lesson design to make the block successful for students. And of course we will continue to monitor academic achievement to determine how well students are learning in relation to state and local standards.

In the meantime we enjoy the benefits that the block schedule has brought for parents, students and staff in our school.

Figure 1. Sample Student Schedules

6th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Reading	Reading
2 8:32 - 9:14	Band/Orchestra	Positive Transitions
9:19 - 9:43	ConnecTime	ConnecTime
3 9:48 - 10:30	Music	Art
10:30 - 11:00	Lunch	Lunch
4 11:00 - 11:37	Phy. Ed.	World Language
5 11:37 - 12:19	Math	Language Arts
6 12:24 - 1:06		
7 1:11 - 1:53	Science	Social Studies
8 1:58 - 2:40		

7th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Math	Language Arts
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Science	Social Studies
4 10:25 - 11:07		
11:07 - 11:37	Lunch	Lunch
5 11:37 - 12:19	Art (Sem. 1) / FACS ** (Sem. 2)	Tech. Ed. (Sem. 1) / Health (Sem. 2)
6 12:24 - 1:06		
7 1:11 - 1:53	Music	Study Skills
8 1:58 - 2:40	Phy. Ed.	World Language

8th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Phy. Ed. (Sem. 1) / Elective (Sem. 2)	RAP*
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Language Arts	Social Studies
4 10:25 - 11:07		
5 11:12 - 11:54	Math	Science
11:54 - 12:24	Lunch	Lunch
6 12:24 - 1:06	Math	Science
7 1:11 - 1:53	World Language	Music (or other Electives)
8 1:58 - 2:40		

*Research/Analysis/Presentation Skills

9th Grade	"A" Day	"B" Day
1 7:45 - 8:27	English	Math
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Social Studies	Science
4 10:25 - 11:07		
5 11:12 - 11:54	Tech. Resource Management	World Language or Elective
6 11:59 - 12:41		
12:41 - 1:11	Lunch	Lunch
7 1:11 - 1:53	Phy. Ed. (Sem. 1) / Elective (Sem. 2)	Music or Elective(s)
8 1:58 - 2:40		

**Family and Consumer Science

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Figure 2. Sample Teacher Schedules

6th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Reading	Reading
2 8:32 - 9:14	Positive Transitions	Positive Transitions
9:19 - 9:43	ConnecTime	ConnecTime
3 9:48 - 10:30	Team Prep	Team Prep
10:30 - 11:00	Lunch	Lunch
4 11:00 - 11:37	Individual Prep.	Individual Prep.
5 11:37 - 12:19	Social Studies	Language Arts
6 12:24 - 1:06		
7 1:11 - 1:53	Social Studies	Social Studies
8 1:58 - 2:40		

7th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Math	Math
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Math	Math
4 10:25 - 11:07		
11:07 - 11:37	Lunch	Lunch
5 11:37 - 12:19	Math	Math
6 12:24 - 1:06		
7 1:11 - 1:53	Team Prep	Team Prep
8 1:58 - 2:40	Individual Prep	Individual Prep

8th Grade	"A" Day	"B" Day
1 7:45 - 8:27	RAP*	Language Arts
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Language Arts	Language Arts
4 10:25 - 11:07		
5 11:12 - 11:54	L. Arts	L. Arts
11:54 - 12:24	Lunch	Lunch
6 12:24 - 1:06	L. Arts	L. Arts
7 1:11 - 1:53	Team Prep	Team Prep
8 1:58 - 2:40		

9th Grade	"A" Day	"B" Day
1 7:45 - 8:27	Science	Tech. Resource Management
2 8:32 - 9:14		
9:19 - 9:33	ConnecTime	ConnecTime
3 9:38 - 10:20	Science	Science
4 10:25 - 11:07		
5 11:12 - 11:54	Team Prep	Individual Prep
6 11:59 - 12:41		
12:41 - 1:11	Lunch	Lunch
7 1:11 - 1:53	Science	Science
8 1:58 - 2:40		

*Research/Analysis/Presentation Skills

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